

IN THE SPECIFICATION:

Page 1, please amend the paragraph beginning at line 2 as follows:

CROSS REFERENCE TO RELATED APPLICATION

This is a continuation of U.S. application Serial No. 09/779,458, filed February 9, 2001, now U.S. Patent No. 6,704,082, the subject matter of which is incorporated by reference herein.

Page 5, please amend the paragraph beginning at line 22 as follows:

According to an embodiment of a liquid crystal display device in accordance with the present invention, pixel electrodes and common electrodes and active elements are arranged on at least one substrate, and the liquid crystal material of the liquid crystal layer is controlled to produce a display by applying a voltage between the pixel electrode and the common electrode. A pair of alignment layers individually formed on surfaces in contact with the liquid crystal layer of the pair of substrates are made of an organic polymer of the polyamic acid group or ~~polymamide~~ polyimide ester group having a relative imidization ratio above 60%.

Page 6, please amend the paragraph beginning at line 3 as follows:

It is preferable that the alignment layer is made of an organic polymer of the polyamic acid group or ~~polymamide~~ polyimide ester group having a relative imidization ratio above 70 %.

Page 8, please amend the paragraph beginning at line 13 as follows:

Further, according to the other embodiment of a liquid crystal display device in accordance with the present invention, the pair of alignment layers individually formed on the surfaces in contact with the liquid crystal layer of the pair of substrates are made of an organic polymer selected from the group consisting of polyamic acid

group polymers and polyimide-polyimide ester group polymers having a relative imidization ratio above 60%. It is particularly preferable that the alignment layer is made of an organic polymer selected from the group consisting of polyamic acid group polymers and polyimide-polyimide ester group polymers having a relative imidization ratio above 70%. Further, the polyamic acid group organic polymer contains at least one group selected from the group consisting of methyl ester group, ethyl ester group and propyl ester group.

Page 18, please amend the paragraph beginning at line 12 as follows:

Further, it is preferable that the total number of bonding groups making a molecular axis of the polymer rotatable, such as -O-, -S-, -CH₂-, -C(CH₃)₂-, -C(CF₃)₂-, -SO₂-, bonding group in the meta position, and bonding group in the ortho position contained in the repetitive structure of the organic polymer, is three or less. The reason is that in a case where there are many bonding groups as described above, although diffusion of the polymer main chain does not occur, the elastic modulus of the alignment layer polymer is decreased because rotation around the molecular axis becomes easy and local thermal motion becomes possible. Such a phenomenon is known as side chain relaxation (Tg(b)) which appears in the temperature characteristic of the elastic modulus. In the alignment layer used for the conventional TN mode, a method of introducing a side chain such as n-alkyl group is used in order to control the pretilt angle. However, in the IPS made, in order to secure a wide viewing angle, and from the viewpoint described above, it is preferable to use a polymer which has few in a side group chromophore with a long chain branch causing a pretilt angle such as n-alkyl group, or a polymer which does not have a high volume side chain substituent group. Therefore, employing such a polymer for the alignment layer can suppress the pretilt angle (interface tilt angle) to a low angle below 5 degrees, and is effective to secure the wide viewing angle

characterizing the IPS mode liquid crystal display device. Accordingly, the short length alkyl groups, such as methyl ester group, ethyl ester group and propyl ester group, are suitable for the polyamide-polyimide ester group alignment layer described above.